Data Response Guide

January 31, 2007 Data Requests – Round 2

SUPPLEMENTAL DATA REQUEST RESPONSES

Follow-up to Data Request Responses – Round 1
January 9, 2007 Submittal

Data Requests from February 1, 2007
Letter Requesting Additional Reconductoring Information

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TECHNICAL AREA: BIOLOGICAL RESOURSES

Data Request 61 Rev: Please provide the following information related to the reconductoring of the Wilson-Gregg 230kV transmission line.

a) Please provide a general description of the likely biological resource issues and sensitive species that may be found in the area of the anticipated Wilson-Gregg 230 kV transmission line reconductoring work.

b) Please provide maps, at a suitable scale, that show the likely location(s) of the sensitive species, a general discussion of potential impacts to sensitive biological resources, all potential mitigation measures, and if any other permits such as an incidental take permit are likely to be required for the reconductoring work.

c) Please identify the source(s) of information that were utilized to generate the list of potential biological resource issues and sensitive species.

d) If other biological resource-related permits will be required from state or federal agencies please identify the permits, permitting agencies, and discuss the schedule for those processes.

Response: a)

For the purposes of this evaluation, the "study area" is defined as the potential Wilson-Gregg 230kV line reconductor physical disturbance area, plus sufficient adjacent area to adequately assess the impact of the Project on special status species[1], their habitats, and other special aquatic resources[2]. The size of the study area varied depending on the wildlife/plant species or vegetative communities being evaluated. For example, botanical studies were limited to areas of proposed physical ground disturbance, while studies for noise-sensitive birds (e.g. passerines and raptors) extended out 304.8 meters (m) (1,000 feet) from the study area. The study area and a 1,000-foot buffer were evaluated to the maximum extent practical. Where access to the entire study area was not possible as a result of private property, or physical barriers (e.g., fences, substantial topographic relief, or other barriers), observations were made from the nearest

[1] *For the purposes if this analysis, the term "special-status species" is used synonymously with "local, state, or federally protected plant/wildlife species." Additionally, the aforementioned terms exclude those avian species solely identified under Section 10 of the Migratory Bird Treaty Act for federal protection.*

[2] *For the purposes if this analysis, the term "special aquatic resources" includes those features that are Clean Water Act or California Fish and Game Code 1600 (et seq.) jurisdictional.*

appropriate vantage point with binoculars to document and verify the presence or absence of individual wildlife and plant species or their habitats.

The biological reconnaissance survey was conducted during the morning hours. Weather conditions at the time of the survey were sunny with light winds, and ambient air temperatures ranging from 60° to 65° Fahrenheit. The study area is located entirely within a mosaic of agricultural developments. Vegetation species detected within the study area included orange (*Citrus sinensis*), erodium (*Erodium sp.*) and telegraph weed (*Hetrotheca sp.*). A complete list of vegetation detected within the study area can be found in Table 1.

The adjacent topography is flat and is comprised of developed areas (e.g., farms), agricultural fields and the San Joaquin River (approximately 1900 feet to the South). The San Joaquin River originates in the western slopes of the Sierra Nevada and drains most of the area from the southern border of Yosemite, south to Kings Canyon National Park, making it the second largest river drainage in the state. The portion of the river that is to the south of the Wilson-Gregg 230kV line supports robust riparian habitats that include species such as the western sycamore (*Platanus racemosa*), willow (*Salix* sp.) and cottonwood (*Populus freemontii*) among others. Nonetheless, the San Joaquin River is approximately 1250 feet to the nearest tower and will be completely avoided.

The study area supports commonly occurring wildlife species associated with San Joaquin Valley. The dominant common wildlife detected during the survey included white crowned sparrow (*Zonotrichia leucophrys*), common raven (*Corvas corax*), and house finch (*Carpodacus mexicanus*). No sign or other indications of large or small mammal were detected; albeit various species are expected to occur within the immediate area. A complete list of plant and wildlife species observed during the survey is included in Table 1. No raptor nests or other avian nests were observed within the study area (including the Wilson-Gregg transmission line towers).

Plants

Seven special status plant species are reported as occurring within the general vicinity of the study area. Four of these records are identified as being federal and/or state Endangered Species Act protected species. The remaining three records do not receive federal and/or state Endangered Species Act protection. The study area was assessed in the field for its potential to support both common and special status species based on habitat suitability comparisons with reported occupied habitats. Where there was no suitable habitat present for a particular special status species within the study area, or only marginally suitable habitat present, the species was considered to be absent or to have a low probability to occur within the study area. All of the records received an “absent” or “low” potential for occurrence. Species were considered absent due to a lack of suitable habitat within the study area. A low potential for occurrence designation was applied to species because its’ distribution is restricted by substantive habitat requirements that are negligible within the study area and no further survey or evaluation is obligatory to determine likely presence or absence of these species. Furthermore, no federal and/or state Endangered Species Act protected species were observed during the field survey[3]. The aforementioned seven species’ status, biology, ecology, blooming period, and their potential to occur are provided in Table 2.

[3] *The field surveys did not coincide with all the known flowering periods of local special status plant species (Skinner & Pavlik 1994) and prior to initiating the plant survey known special status plant populations in the local area were not evaluated to document local variation in flowering phenology.*

Wildlife

Fifteen special status animal species are reported as occurring within the general vicinity of the study area. Five of these records are identified as being federal and/or state Endangered Species Act protected species. The remaining ten records do not receive federal and/or state Endangered Species Act protection. The study area was assessed in the field for its potential to support both common and special status species based on habitat suitability comparisons with reported occupied habitats. Where there was no suitable habitat present for a particular special status species within the study area, or only marginally suitable habitat present, the species was considered to be absent or to have a low probability to occur within the study area. All of the wildlife records received an "absent" or "low" potential for occurrence. Species were considered absent due to a lack of suitable habitat within the study area. A low potential for occurrence designation was applied to species because its' distribution is restricted by substantive habitat requirements that are negligible within the study area and no further survey or evaluation is obligatory to determine likely presence or absence of these species. Furthermore, no federal and/or state Endangered Species Act protected species were observed during the field survey[4]. The aforementioned 15 species' status, biology, ecology, and their potential to occur are provided in Table 3.

Special Aquatic Resources

Prior to beginning the field surveys, a topographic map and a United States 7.5-Minute Topographic Geological Survey map were examined to determine the locations of potential areas of Clean Water Act (CWA) / California Fish and Game Code 1600 (*et seq*) jurisdictional features. Areas potentially suspected of being CWA or California Fish and Game Code 1600 (*et seq*) defined wetlands, Waters of the U.S., Waters of the State, sensitive riparian areas, and so forth were recorded onto data sheets. Suspected special aquatic resources were evaluated using a methodology derived from the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and the guidance described in A Field Guide to Lake and Streambed Alteration Agreements Sections 1600-1607 (Environmental Services Division, January 1994). Potential special aquatic resources areas were evaluated to determine the presence of definable channels and/or hydrophytes, riparian habitat, soils, and hydrology[5].

Response: b)

Please see Figure 2 (study area map) and Figure 3 (topographic features map).

[4] *The field surveys were not focused presence/absence surveys and were not conducted pursuant to United States Fish and Wildlife Service, California Department of Fish and Game, or United States Forest Service established protocols.*

[5] *This evaluation is not intended to meet the substantive provisions of CWA Section 404, 401 and CDFG Code 1600 (et seq). Suspected jurisdictional habitats were not delineated pursuant to U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) or the guidance described in A Field Guide to Lake and Streambed Alteration Agreements Sections 1600-1607 (Environmental Services Division, January 1994*)

Figure 2

WILSON-GREGG 230 kV LINE STUDY AREA

Figure 3

TOPOGRAPHIC FEATURES OVER THE WILSON-GREGG STUDY AREA

Response: c)

Available information was reviewed from resource management plans and other documents containing information on resources in the study area to determine the locations and types of biological resources that could exist. Information on species occurrence was gathered from the California Natural Diversity Database (CNDDB) maintained by the California Department of Fish and Game (CDFG), Consortium of California Herbaria, and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants. Additionally, species experts, resource specialists, and others were contacted to gather file information on biological resources in the study area, including maps and database information.

This report utilizes data included in the CNDDB and CNPS records that are organized by United States 7.5-Minute Topographic Geological Survey quadrangle maps. The Herndon quadrangle was used primarily; however, the Fresno North, Biola, Kearney Park, and Gregg, California quadrangles were also used. URS Biologists reviewed the study area and proposed facility locations and created species lists from the aforementioned sources (Table 2 and 3). Special status species are potentially present within the vicinity of the aforementioned quadrangle maps; however, based on literature review, field surveys, and expert consultation it was determined that for many of the special status species, suitable habitat does not exist within the study area (Table 2 and 3).

Qualitative vegetation and wildlife data were collected using reconnaissance field surveys to record community characteristics and species detected in all community types within the study area. Botanical species names were recorded according to The Jepson Manual Higher Plants of California (Hickman 1993). Vegetation data were collected using pedestrian surveys to record vegetation community characteristics (e.g., notes about general vegetation types, species observed, general plant population sizes, and so forth), and species observed in community types. Vegetation communities were identified based upon descriptions provided by Holland (1986) and vegetation series were characterized following descriptions provided in Sawyer and Keller-Wolf (1995). Plants were identified to a taxonomic level sufficient to determine if the species observed were classified as an invasive non-native, natives, or special status species. Plants of uncertain identity were collected and subsequently identified from keys, Hickman (1993), and Munz (1974), and from field guides, McAuley (1996), McMinn (1939), and Dale (2000).

Incidental observations of wildlife were recorded during the reconnaissance surveys as well. Qualitative data were collected for birds, mammals, amphibians, and reptiles. The presence of a wildlife species was based on direct observation, wildlife sign (tracks, burrows, nests, scat, etc.), or vocalization. Animal scientific nomenclature, common names, and habitat information followed that of: Hall (1981), Jameson and Peeters (1988), Burt and Grossenheider (1980), Whitaker (1980), and Ingles (1965) for mammals; Alsop (2001), Peterson (1990), National Geographic Society (1983), Stokes and Stokes (1996), Udvardy (1988), and Garrett and Dunn (1981) for birds; Moyle (1995) for fish; and Stebbins (1985), Jennings (1994), and Behler (1979) for reptiles and amphibians.

Common names of plants and wildlife were taken from the above sources, and may vary by author and/or geographically in their usage. All field data compiled for vegetation and wildlife included the species observed, scientific name, common name, habitat, and evidence of presence (when no direct observation was made). A list of plant and wildlife species observed during the surveys is presented in Table 1.

Response: d)

No special status species or habitats occur within the project study area. No vegetation is expected to be removed and no impacts are expected in the developed orchard. No potentially jurisdictional CWA or California Fish and Game Code 1600 (*et seq*) features were detected within the study area. Therefore, no biological resource-related permits will be required from state or federal agencies.

Table 1
Plant Species Observed
PEC Wilson-Gregg 260kV Line, between station 101/674 and 102/681
Fresno County, California

Scientific Name	Common Name
ANGIOSPERMS (DICOTYLEDONS)	
ASTERACEAE	**SUNFLOWER FAMILY**
Heterotheca sp.	telegraph weed
Senecio vulgaris*	Common groundsel
GERANIACEAE	**GERANIUM FAMILY**
Erodium sp.	erodium
LAMIACEAE	**MINT FAMILY**
Stachys sp.	Hedge-nettle
RUTACEAE	**RUE FAMILY**
Citrus sinensis	orange
ANGIOSPERMS (MONOCOTYLEDONS)	
CYPERACEAE	**SEDGE FAMILY**
Cyperus sp.	sedge
POACEAE	**GRASS FAMILY**
Leptochioa uninervia	Mexican sprangletop

* - Non-native

Wildlife Species Observed
PEC Wilson-Gregg 260kV Line, between 101/674 and 102/681
Fresno County, California

Scientific Name	Common Name
CLASS AVES	**BIRDS**
COLUMBIDAE	**PIGEONS & DOVES**
Zenaida macroura	mourning dove
CORVIDAE	**JAYS & CROWS**
Aphelocoma californica	western scrub-jay
Corvas corax	Common raven
FRINGILLIDAE	**FINCHES**
Carpodacus mexicanus	house finch
EMBERIZIDAE	**SPARROWS**
Zonotrichia leucophrys	white-crowned sparrow
STURNIDAE	**STARLINGS**
Sturnus vulgaris	European Starling

TABLE 2
REGIONALLY OCCURRING SPECIAL STATUS PLANT SPECIES

Scientific Name	Common Name	Status Listing	Habitat and Distribution	Flowering Season	Potential for Occurrence
Castilleja campestris ssp. *succulenta*	succulent owl's-clover	Fed: **THR** CA: **END** CNPS: 1B.2	Hemiparasitic annual herb. Occurs in vernal pools, and valley and foothill grasslands, often on acidic soils. From approximately 80 to 2,460 feet in elevation.	April – May	**Low**
Caulanthus californicus	California jewel-flower	Fed: **END** CA: **END** CNPS: 1B.1	Annual herb. Occurs in chenopod scrub, valley and foothill grassland, and pinyon-juniper woodland. Historically from various valley habitats in both the central valley and Carrizo plain. From approximately 200 to 2,950 feet in elevation.	February - May	**Absent**
Imperata brevifolia	California satintail	Fed: None CA: None CNPS: 2.1	Perennial rhizomatous herb. Occurs in chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps, and riparian scrub. Up to 1,640 feet in elevation.	September - May	**Absent**
Orcuttia inaequalis	San Joaquin Valley orcutt grass	Fed: **THR** CA: **END** CNPS:1B.1	Annual herb. Occurs in vernal pools. From approximately 100 to 2,500 feet in elevation.	April – September	**Low**
Orcuttia pilosa	hairy orcutt grass	Fed: **END** CA: **END** CNPS: 1B.1	Annual herb. Occurs in vernal pools. From approximately 180 to 660 feet in elevation.	May – September	**Low**
Sagittaria sanfordii	Sanford's arrowhead	Fed: None CA: None CNPS: 1B.2	Rhizomatous perennial herb. Occurs in shallow freshwater swamps and marshes. Up to 2,000 feet in elevation.	May - October	**Low**
Tropidocarpum capparideum	caper-fruited tropidocarpum	Fed: None CA: None CNPS: 1B.1	Annual herb. Occurs in valley and foothill grassland, mostly in alkaline clay soils. Up to 1,500 feet in elevation.	March - April	**Absent**

General references: Hickman (ed.) 1993; Munz 1974; CNPSEI 2007; CNDDB 2007

Federal designations: (Federal Endangered Species Act, USFWS):
END: Federal-listed, endangered.
THR: Federal-listed, threatened.
CAN: Proposed federal listed, endangered.

State designations: (California Endangered Species Act, CDFG)
END: State-listed, endangered.
THR: State-listed, threatened.
RARE: State-listed as rare

Scientific Name	Common Name	Status Listing	Habitat and Distribution	Flowering Season	Potential for Occurrence

California Native Plant Society (CNPS) designations:
List 1A: Plants presumed extinct in California.
List 1B: Plants rare and endangered in California and throughout their range.
List 2: Plants rare, threatened, or endangered in California but more common elsewhere in their range.
List 3: Plants about which we need more information; a review list.
List 4: Plants of limited distribution; a watch list.
Threat Codes:
.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Fairly endangered in California (20-80% occurrences threatened)
.3 Not very endangered in California (<20% of occurrences threatened or no current threats known)

Definitions of Occurrence Probability:

Absent

Species distribution is restricted by substantive habitat requirements, which do not occur within the study area, and no further survey or study is obligatory to determine likely presence or absence of this species within the study area.

Low

Species distribution is restricted by substantive habitat requirements, which are negligible within the study area, and no further survey or study is obligatory to determine likely presence or absence of this species within the study area.

Moderate

Species distribution is restricted by substantive habitat requirements, which marginally or mostly occur within the study area, and further survey or study is necessary to determine likely presence or absence of species from the study area.

High

Species distribution is restricted by substantive habitat requirements, which occur within the study area, and further survey or study is necessary to determine likely presence or absence of species from the study area.

Present

Species observed on the site during surveys described here, or recorded onsite by other qualified biologists.

Absent, Low, and Present categories correspond to a recommendation of not conducting a focused survey. The Moderate and High categories correspond to a recommendation of conducting a focused survey.

TABLE 3
REGIONALLY OCCURRING SPECIAL STATUS WILDLIFE SPECIES

Scientific Name	Common Name	Status Listing	Habitat	Potential For Occurrence
CLASS BRANCHIOPODA	**BRINE AND FAIRY SHRIMPS**			
BRANCHINECTIDAE	**FAIRY SHRIMPS**			
Branchinecta lynchi	vernal pool fairy shrimp	FT	Endemic to the grasslands of the Central Valley, central coast mountains and south coast mountains in vernal pools.	**Absent**
Linderiella occidentalis	California linderiella	FSC, CSC	Found in seasonal pools in unplowed grassland with old, alluvial soils underlain by hardpan, or in sandstone depressions. The water in these pools has very low alkalinity, conductivity, and TDS.	**Absent**
CLASS INSECTA	**INSECTS**			
ASILIDAE	**ROBBER FLIES**			
Efferia antiochi	Antioch efferian robberfly	*	Known only from Contra Costa and Fresno Counties.	**Absent**
Metapogon hurdi	Hurd's metapogon robberfly	*	Known only from sand dunes of Antioch and Fresno.	**Absent**
CERAMBIDAE	**LONGHORN BEETLES**			
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus mexicana*). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.	**Absent**
MELOIDAE	**BLISTER BEETLES**			
Lytta molesta	molestan blister beetle	*	Inhabits the Central Valley of California, from Contra Costa to Kern and Tulare Counties.	**Absent**
CLASS AMPHIBIA	**AMPHIBIANS**			

Scientific Name	Common Name	Status Listing	Habitat	Potential For Occurrence
AMBYSTOMATIDAE	**MOLE SALAMANDERS**			
Ambystoma californiense	California tiger salamander	FT, CSC	Annual grasslands and grassy understory of valley-foothill hardwood habitats in central and northern California. Need underground, refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding.	**Absent**
PELOBATIDAE	**SPADEFOOT TOADS**			
Spea hammondii	western spadefoot toad	FSC, CSC	Inhabits primarily grassland habitats, but can also be found in valley and valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg laying.	**Absent**
CLASS AVES	**BIRDS**			
ICTERIDAE	**BLACKBIRDS**			
Agelaius tricolor	tricolored blackbird	CSC	Highly colonial. Most numerous in the central valley, largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	**Absent**
STRIGIDAE	**OWLS**			
Athene cunicularia	burrowing owl	CSC	Prefers open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Dependent on small mammal burrows (particularly ground squirrels) for its subterranean nesting	**Low**
CLASS MAMMALIA	**MAMMALS**			
CANIDAE	**WOLVES & FOXES**			
Vulpes macrotis mutica	San Joaquin kit fox	FE ST	Found throughout the San Joaquin Valley in grassland and shrubland communities with adequate burrowing rodent populations. Requires loose-textured sandy soils for burrowing.	**Low**
HETEROMYIDAE	**POCKET MICE & KANGAROO RATS**			

Scientific Name	Common Name	Status Listing	Habitat	Potential For Occurrence
Dipodomys nitratoides exilis	Fresno kangaroo rat	FE, SE	Alkali sink-open grassland habitats in western Fresno County. Bare alkaline clay-based soils subject to seasonal inundation, with more friable soil mounds around shrubs & grasses.	**Absent**
Perognathus inornatus inornatus	San Joaquin pocket mouse	*CSC	Typically found in grasslands and blue oak savannas. Needs friable soils.	**Absent**
MOLOSSIDAE	**FREE-TAILED BATS**			
Eumops perotis californicus	western mastiff bat	CSC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees & tunnels.	**Absent**
MUSTELIDAE	**WEASELS, SKUNKS & OTTERS**			
Taxidea taxus	American badger	CSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	**Absent**

Scientific Name	Common Name	Status Listing	Habitat	Potential For Occurrence
Status Codes Federal FE = Federally listed; Endangered FT = Federally listed; Threatened FC = Federally a Candidate Species FSOC = Federal Species of Concern State ST = State listed; Threatened SE = State listed; Endangered CSC = California Species of Special Concern * --Taxa that are biologically rare, very restricted in distribution, declining throughout their range, or at a critical stage in their life cycle when residing in California. -- Population(s) in California that may be peripheral to the major portion of a taxon's range, but which is threatened with extirpation within California. -- Taxa closely associated with a habitat that is declining in California (e.g., wetlands, riparian, old growth forest).			Potential for Occurrence (PFO) **Absent** Species distribution is restricted by substantive habitat requirements, which do not occur within the study area, and no further survey or study is obligatory to determine likely presence or absence of this species within the study area. **Low** Species distribution is restricted by substantive habitat requirements, which are negligible within the study area, and no further survey or study is obligatory to determine likely presence or absence of this species within the study area. **Moderate** Species distribution is restricted by substantive habitat requirements, which marginally or mostly occur within the study area, and further survey or study is necessary to determine likely presence or absence of species from the study area. **High** Species distribution is restricted by substantive habitat requirements, which occur within the study area, and further survey or study is necessary to determine likely presence or absence of species from the study area. **Present** Species observed on the site during surveys described here, or recorded onsite by other qualified biologists. Absent, Low, and Present categories correspond to a recommendation of not conducting a focused survey. The Moderate and High categories correspond to a recommendation of conducting a focused survey. Source: California Natural Diversity Data Base (CNDDB) Herndon, Fresno North, Biola, Kearney Park, and Gregg, California Quads 2007.	

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TECHNICAL AREA: CULTURAL RESOURCES

Data Request 62 Rev: Please have a qualified architectural historian complete Department of Parks and Recreation (DPR) 523 "Primary" and "Building, Structure, and Object" forms for the Panoche Substation, including an evaluation of significance. Please have the qualified architectural historian also assess the project's potential impact on the substation, and provide the DPR 523 forms and impact assessment to staff.

Response:

JRP Historical consultants have completed the DPR 523 forms for the Panoche substation (the form is included in Appendix A). Although the substation is over 50 years old, it is of a type that is ubiquitous throughout California; is not an outstanding example of its type; does not reflect the work of a master architect or craftsman; is not associated with people or events of local, state, or national importance; and, because of its ubiquity, will not provide important technical or cultural information. For these reasons, it is not eligible for listing on federal, state, or local historic registers, and any impacts to the substation will be considered less than significant for the purposes of cultural resources.

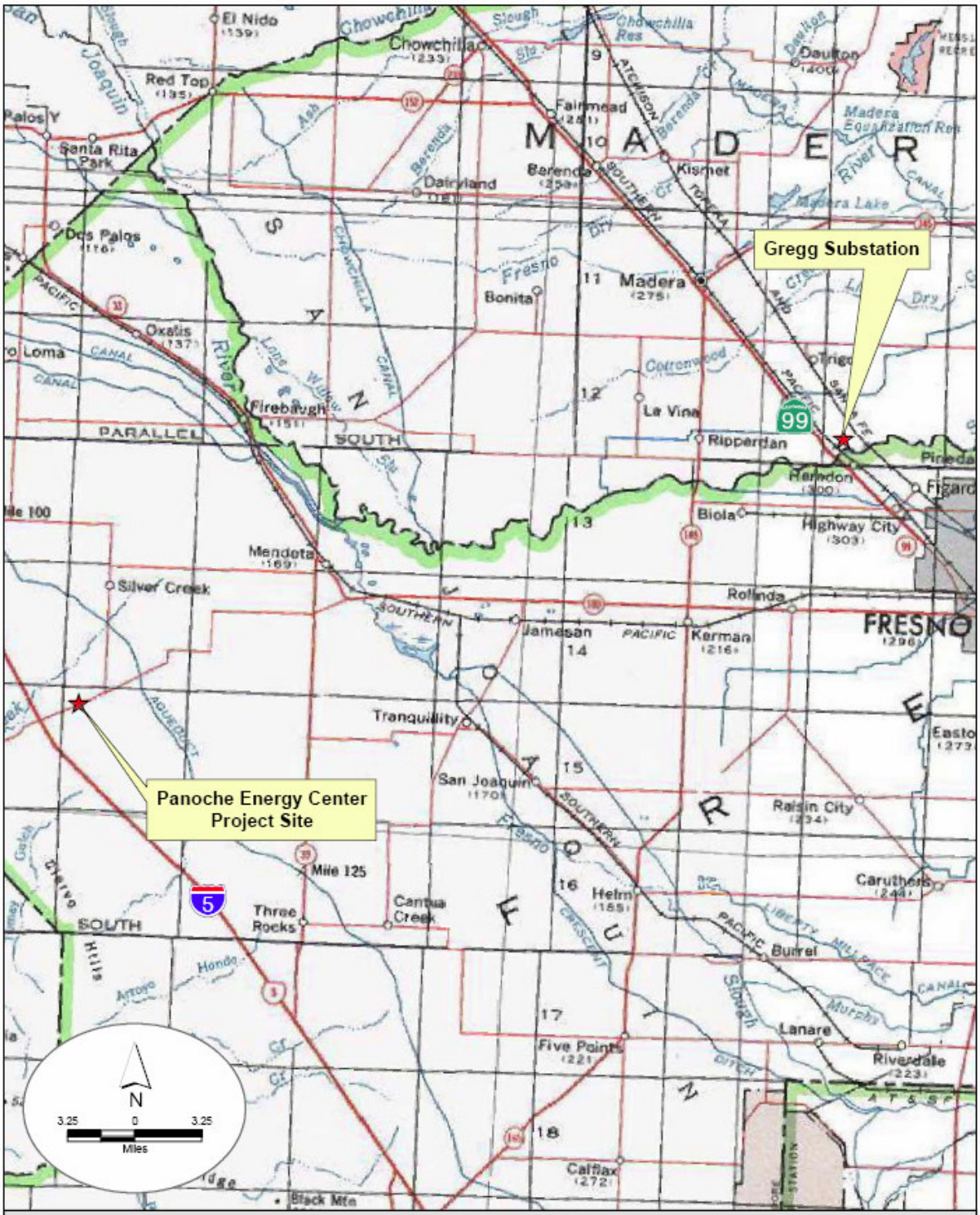
TECHNICAL AREA: CULTURAL RESOURCES

Data Request 63 Rev: Please provide a map showing the Wilson-Gregg 230 kV transmission line and the one-mile segment which would have to be reconductored. Also, please include on the map the substation which will be upgraded. Please use a scale which will allow staff to discern where the segment and the substation are located in relation to the PEC project.

Response:

Aerial and topographic maps showing the one-mile Wilson-Gregg 230 kV transmission line and Gregg substation are provided in the response to Data Request 61 as Figure 2 (study area) and Figure 3 (topographic features). Please note that the substation is the *developed feature* shaded light orange at the southern end of the one-mile transmission line segment.

A topographic map showing the location of the Gregg substation in relation to the PEC project is provided on the following page.



PANOCHE ENERGY CENTER PROJECT SITE AND GREGG SUBSTATION

TECHNICAL AREA: CULTURAL RESOURCES

Data Request 64 Rev: Please conduct a CHRIS records search for an area within of ½ mile of either side of the segment which will be reconductored and around the substation. Please provide the results, including all reports, maps, and inventory forms, to staff.

Response:

The CHRIS records search was conducted by the Southern San Joaquin Valley Archaeological Information Center and results were submitted to Matt Armstrong, URS archaeologist, on February 21, 2007 (CHRIS record search results are provided in Appendix A). The CHRIS records search indicated that there are no previously recorded cultural resources within the project area, or a ½ mile buffer zone. There has been one cultural resource study performed in the project area, and five more performed within ¼ mile of the project area.

TECHNICAL AREA: CULTURAL RESOURCES

Data Request 65 Rev: If the area within 50 feet of the centerline of the transmission line segment that would have to be reconductored has not been surveyed for cultural resources within the past five years, please have a qualified archaeologist conduct a survey of that area and provide a letter report to staff describing survey methods, personnel qualifications, and findings. If it has been surveyed within the past five years, please provide a copy of the survey report.

Response:

URS qualified archaeologist, Matthew Armstrong, conducted a survey of the Wilson-Gregg transmission line and Gregg substation study area prior to the results of the records search being made available, due to time constraints. A letter report to CEC staff describing survey methods and results, as well as Matthew Armstrong's resume of qualifications, is included in Appendix A.

Ground visibility alternated between approximately 20% (due to vegetation and a ground-cover of leaves) and 100% (in some of the recently cleared and planted fields). In all places, the ground had been heavily disturbed by agricultural activity, and it is unlikely that movement of any vehicle in the field will result in any further disturbance.

No archaeological resources were located within the study area.

The Gregg substation is less than 45 years old, and therefore excluded from further consideration. The transmission line itself was constructed some time between 1923 and 1946. However, it was not built during the pioneering days of electrical transmission in California; it was constructed using common methods and materials for its time (and still in use today) and does not reflect the work of a master; it is not associated with important people or events in local, state, or federal history; the transmission line and towers are not likely to provide information about history or engineering. Moreover, the transmission line has suffered loss of integrity due to upgrades and modifications.

TECHNICAL AREA: CULTURAL RESOURCES

Data Request 66 Rev: If the substation or the transmission line are 45 years of age or older, please have a qualified architectural historian record them on Department of Parks and Recreation (DPR) 523 forms. Also, please have the architectural historian make a recommendation on the eligibility of these potential cultural resources for the CRHR, and, if they are eligible, evaluate the impact of the upgrade and reconductoring on them. Please provide the DPR forms, eligibility recommendations, and impact assessments to staff.

Response:

The Gregg substation is less than 45 years old, and therefore excluded from further consideration. The transmission line itself was constructed some time between 1923 and 1946 (the DPR forms for the Wilson-Gregg transmission line is provided in Appendix A). However, it was not built during the pioneering days of electrical transmission in California; it was constructed using common methods and materials for its time (and still in use today) and does not reflect the work of a master; it is not associated with important people or events in local, state, or federal history; the transmission line and towers are not likely to provide information about history or engineering. Moreover, the transmission line has suffered loss of integrity due to upgrades and modifications.

TECHNICAL AREA: CULTURAL RESOURCES

Data Request 67 Rev: Please describe all construction activities associated with reconductoring the one-mile transmission line segment and with upgrading the substation's equipment. Please provide these descriptions to staff and to the architectural historian specified in the previous question.

Response:

The reconductoring project, as described by the project proponent, requires the following activities:

> *The Panoche Energy Center Project (PEC) in unincorporated western Fresno County, California is a proposed nominal 400-megawatt (MW) peaking facility. To effectively move this new generation of electricity, a portion of the existing Wilson-Gregg 230kV Line must be reconductored. The Wilson-Gregg 230kV Line related to the one-mile reconductoring is located immediately north of the Gregg Substation, north of the City of Fresno in Madera County between tower 101/674 and 102/681 (See Figures 2 and 3 in Response 61.). The process of reconductoring the Wilson-Gregg transmission line will require an extension of the existing towers. This process occurs from the top down using helicopters to minimize ground disturbance and maximize safety. All material and equipment storage and staging will occur at the existing Gregg Substation located adjacent to the towers. Activities involved with the preparation of the towers include a staging area to assemble the tower extensions, preparation of the towers to take the tower extensions and installation of the tower extension. A landing location for the helicopter will be located inside the Gregg Substation. All assembled tower extensions, workers, materials and equipment/tools will be flown to the towers with a helicopter. Methods used to "install the new conductor" will require some ground vehicle(s) activity which will occur either in a developed orchard or on dirt access roads. These areas in the orchard or on the access road may (depending on the soil) require the laying down rock on top (a SWPPP measure) to move set up equipment to remove the old conductor and install the new conductor. Helicopters will once again be used to deliver workers, equipment/tools and materials to and from the towers. These activities are considered temporary impacts and will not require soil excavation or vegetation removal.*

Therefore, no impacts to archaeological resources are anticipated due to this project. The substation is too recent for impacts to it to be considered relevant. The powerline towers will be altered for the reconductoring, but changes to the towers are not likely to result in significant impacts to the cultural resources base because the power line and towers are not eligible for the NRHP and not considered cultural resources for the purposes of CEQA. Given both the lack of observed cultural resources in the orchards and the obvious ground disturbance due to agricultural activity, it is unlikely that the use of ground-vehicles as described by the client will in any way impact any previously undiscovered cultural resources.

TECHNICAL AREA: CULTURAL RESOURCES

Data Request 68 Rev: Please provide an analysis of any potential impacts related to the reconductoring of the transmission line and modifications to the substation.

Response:

There are no archaeological resources within the project area. The Gregg substation is not old enough to be considered a historic resource, and the Wilson-Gregg transmission line towers are of a common type. The description of the non-significance of the Panoche substation provided in the response to Data Request 62 also would apply to the Wilson-Gregg transmission line towers at this location. There will be no modifications to the Gregg Substation.

TECHNICAL AREA: NOISE

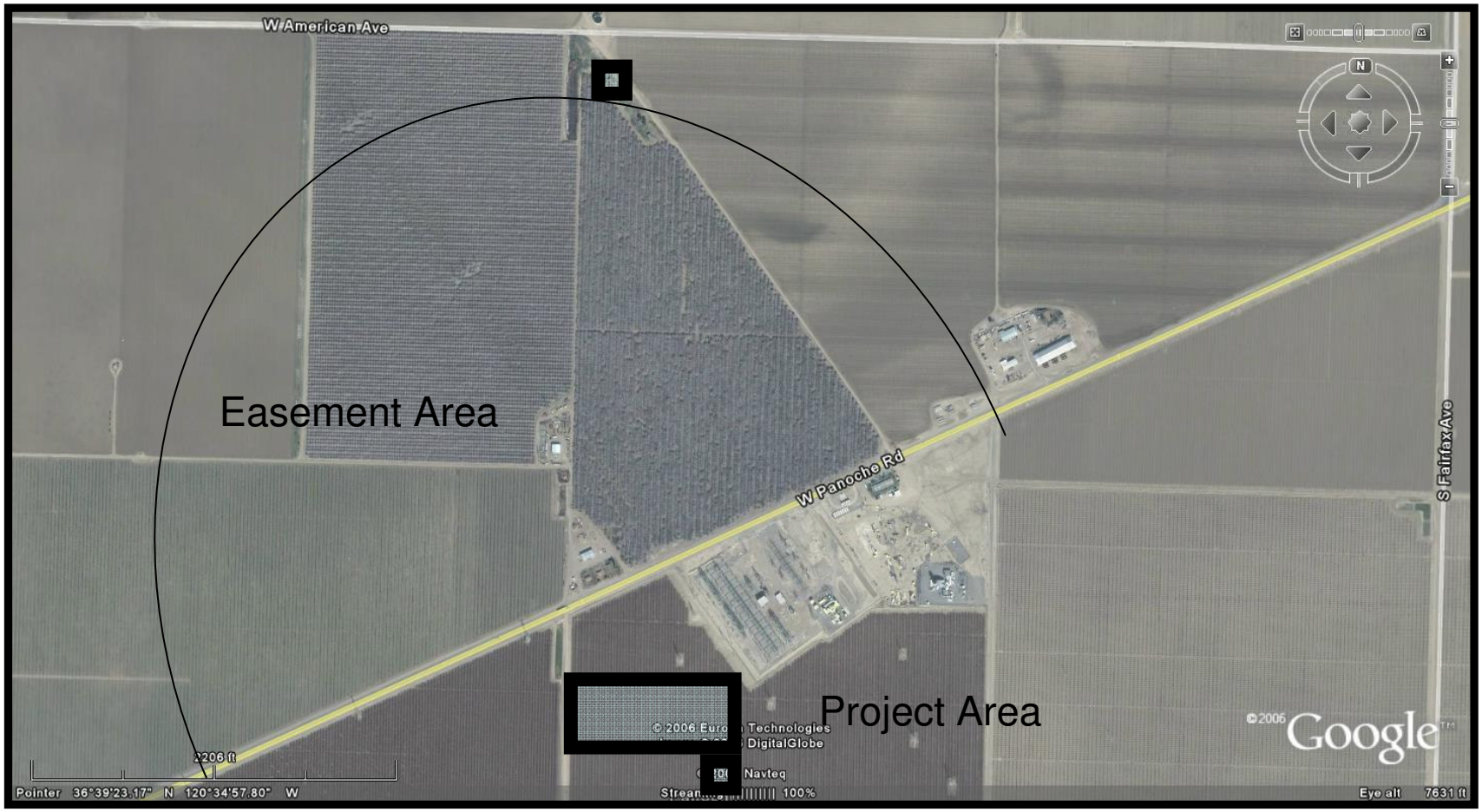
Data Request 69 Rev: Please state if, in fact, the residence at ML2 will be relocated so that it is unaffected by the power plant noise. If the residence will be relocated, please provide the projected project noise level at the new location. Please also state if, as an alternative to relocating this residence, the Applicant will be able to demonstrate compliance with the 45 dBA Fresno County nighttime standard at ML2 (AFC Section 5.12.4.3.1). Please provide a list of possible additional mitigation measures that would be considered in demonstrating compliance with the above standard, should the residence remain at its existing location.

Response:

ML2 will be relocated to a location that is approximately 4000 feet north of the PEC site as shown on Exhibit B on the following page. Our current modeling effort shows that without further mitigation the nighttime noise level at the new location is estimated to be 48 dBA. Possible mitigation measures include sound barriers and noise abatement modifications to supplied equipment.

Exhibit B

Farmers International Property Easement



TECHNICAL AREA: NOISE

Data Request 70 Rev: If the residence will be relocated, please state when this will occur

Response:

The residence will be relocated prior to the start of construction (prior to December 31, 2008).

TECHNICAL AREA: TRAFFIC AND TRANSPORTATION

Data Request 71 Rev: Please provide a discussion of any existing aerial spraying of agricultural materials on the adjacent pomegranate orchards and whether this practice has been altered or restricted since the construction and operation of the existing power plants, substation and transmission lines.

Response:

In a phone discussion between a Baker Farms manager, Juan Calderon, and Dave Jenkins on January 24, 2007, Mr. Calderon stated that the Bakers have not historically practiced or otherwise relied on aerial spraying of agricultural materials on the adjacent pomegranate orchards since they purchased and began farming this parcel in 1989. Rather, he stated that land-based vehicular methods are employed for these applications.

TECHNICAL AREA: TRAFFIC AND TRANSPORTATION

Data Request 72 Rev: Please discuss potential impacts on aerial spraying from the proposed PEC power plant, transmission lines and towers, and visible and thermal plumes.

Response:

In the same phone conversation described in the response to Data Request 71 above, Mr. Calderon stated that the Bakers do not plan on changing their land-based agricultural materials application methods during the PEC construction and operational periods. As such, physical effects related to the PEC, including the transmission towers and lines and thermal plumes, are of no consequence.

Follow-up to Data Request Responses – Round 1
January 9, 2007 Submittal

TECHNICAL AREA: AIR QUALITY

Data Request 4 and 22 Rev: **CEC Comment -** The modeling was not completed as requested, the receptors were not combined and the annual met files were not combined. So, rather than a few dozen files to review the response includes hundreds of files to review. Therefore, I plan to ask for a list of the specific output file names that provide the modeled impact values as presented on the air quality tables (a simple list such as "Operating PM10 24 hour - filename xxxx" etc.)

Response:

The BEEST ISCST3 dispersion model we (URS Corporation) are using has a limit of 15,000 receptors a for any model run. In modeling protocol discussions with CEC air quality staff for previous projects, we were asked to use 25-meter receptor spacing from the fenceline out to a distance of one kilometer, 100-meter spacing from 1 to 5 kilometers and 250-meter spacing from 5 to 10 kilometers. We have used this grid spacing on all recent projects, including Panoche. Depending on the size of the project site, this spacing translates to many more than 15,000 receptors, in this case more than 24,000 receptors. Thus, we had no choice but to divide the Panoche simulations into two separate runs to cover receptors on the east and west sides of the project site. We agree that combining comparable model runs for the five years of data is something we could have (and should have) done to simplify your review.

In order to make it easier to locate the model files that correspond to the maximum predicted concentrations, we have attached tables reiterating the peak predicted concentration values sent previously, followed by lists of the model file names that correspond to these maximum concentrations. Concentrations highlighted in yellow in these tables are corrections to the values for specific pollutants and averaging times that were submitted in the original data request responses. In checking those results, it was realized that the short-term CO and NOx emission rates had been switched in the original simulations, which had led to the incorrect conclusion on our part that all four turbines could not be commissioned at the same time without exceeding the California one-hour NO2 standard. When the correct emission rates were substituted in these simulations, no need for such a restriction is indicated.

Table 5.2-18
Commissioning and Operations ISCST3 Modeling Results

Routine Plant Operation Impacts									
CO	1 hour[5]	350.72	1988West	2,000	7,705	8,051.3	23,000	710,920	4,053,581
	8 hour[6]	192.57	1989 West	500	5,156	5,347.5	10,000	714,720	4,049,781
NO_2	1 hour[5]	192.86	1988 West	NA	169.2	362.1	470	710,920	4,053,581
	1 hour (normal)	136.02	1987 East	NA	169.2	305.2	470	715,985	4,058,633
	Annual[7]	0.12	1989 West	1	42.0	42.12	100	707,770	4,056,655
PM_{10}	24 hour[8]	2.83	1989 West	5	193.0[4]	195.83	50	708,095	4,057,055
	Annual[7]	0.52	1991 East	1	43.0[4]	43.52	20	716,126	4,058,637
$PM_{2.5}$	24 hour[8,9]	2.83	1989 West	NA	110.0	112.83	65	708,095	4,057,055
	Annual[7,9]	0.52	1991 East	NA	21.6	22.12	12	716,126	4,058,637
SO_2	1 hour[5]	2.10	1988 West	NA	23.6	25.70	655	710,895	4,053,606
	3 hour[10]	1.57	1990 West	25	15.6	17.17	1,300	711,095	4,053,606
	24 hour[8]	0.57	1989 West	5	10.5	11.07	105	707,695	4,056,830
	Annual[7]	0.02	1989 West	1	5.3	5.32	80	707,770	4,056,655

Notes:

$\mu g/m^3$	=	micrograms per cubic meter
CO	=	carbon monoxide
ISCST3	=	USEPA Industrial Source Complex model, Version 02035
m	=	meters
NA	=	Not applicable
NAAQS	=	Most stringent ambient air quality standard for the averaging period
NO_2	=	nitrogen dioxide
OLM	=	ozone limiting method
PM_{10}	=	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	=	particulate matter less than or equal to 2.5 microns in diameter. All PM emissions during operation assumed to be $PM_{2.5}$
PSD	=	Prevention of Significant Deterioration
SO_2	=	sulfur dioxide
UTM	=	Universal Transverse Mercator

Table 5.2-18 (Continued)
Commissioning and Operations ISCST3 Modeling Results

[1] Source: 40 CFR 52.21.

[2] Background represents the maximum values measured at Fresno First St. (CO, NO_2, PM_{10}, $PM_{2.5}$) or Fresno Fremont School (SO_2) monitoring stations, 2001-2005, depending on pollutant.

[3] Results for 1-hour NO_2 during commissioning used OLM to estimate NO_2 impacts.

[4] PM_{10} background levels exceed ambient standards.

[5] Maximum hourly impact based on four turbines under commissioning conditions and one hour of diesel fire pump operation.

[6] Maximum 8-hour impact based on four turbines operating for 8 hours under commissioning rate and one hour of diesel fire pump operation.

[7] Annual impact based on 4,734 hours of normal operation, 20 maintenance hours, 365 startups, and 365 shutdowns for all four turbines (total of 5,000 hours), 5,000 hours of cooling tower operation, and 52 hours of diesel fire pump engine operation.

[8] Maximum 24-hour impact based on three startups, three shutdowns and remainder of period at normal operations for four turbines and 1 hour of fire pump engine.

[9] All operational Project equipment PM_{10} emissions assumed to be $PM_{2.5}$.

[10] Maximum 3-hour impact based on 3 hours of normal operation for four turbines and one hour of fire pump engine.

FILE NAMES for OPERATIONS AND COMMISSIONING MAXIMUM CONCENTRATIONS

CO 1-hour	PEC West Comm CO Base Load AVR 1988
CO 8-hour	PEC West Comm CO Base Load AVR 1989
NOx 1-hour	PEC West Comm NOX Base Load AVR 1988
NOx 1-hour normal	PEC East 1hr NOx not commissioning 100% 63F 1987
NOx Annual	PEC West Annual NOx 100% 63F 1989
PM10 24-hour	PEC West Comm PM10 First Fire Stage Short Term Only 1989
PM10 Annual	PEC East Annual PM10 50% 114F 1991
SO2 1-hour	PEC West 1hr SO2 100% 63F 1988
SO2 3-hour	PEC West 3hr SO2 100% 63F 1990
SO2 24-hour	PEC West 24hr SO2 100% 63F 1989
SO2 Annual	PEC West Annual SO2 100% 63F 1989

Cumulative ISCST3 Modeling Results

Pollutant	Averaging Period	Maximum Modeled Impact (µg/m³)	Year	Grid	PSD Significant Impact Level[1] (µg/m³)	Background[2] (µg/m³)	Maximum Total Predicted Concentration (µg/m³)	Most Stringent AAQS (µg/m³)	UTM Coordinates East (m)	UTM Coordinates North (m)
Cumulative Impacts										
CO	1 hour[5]	387.38	1988	West	2,000	7,705	8,092.4	23,000	710,895	4,053,606
	8 hour[6]	208.99	1989	West	500	5,156	5,365.0	10,000	715,345	4,049,556
NO_2	1 hour[5]	266.93	1988	West	NA	169.2	436.13	470	710,895	4,053,606
	Annual[7]	0.26	1990	East	1	42.0	42.26	100	718,695	4,056,806
PM_{10}	24 hour[8]	3.45	1991	East	5	193.0[4]	196.45	50	716,126	4,058,637
	Annual[7]	0.51	1991	East	1	43.0[4]	43.51	20	716,126	4,058,637
$PM_{2.5}$	24 hour[8,9]	3.45	1991	East	NA	110.0	113.45	65	716,126	4,058,637
	Annual[7,9]	0.51	1991	East	NA	21.6	22.11	12	716,126	4,058,637
SO_2	1 hour[5]	4.25	1988	West	NA	23.6	27.85	655	710,895	4,053,606
	3 hour[10]	2.94	1990	West	25	15.6	18.54	1,300	711,095	4,053,306
	24 hour[8]	1.03	1989	West	5	10.5	11.53	105	707,595	4,056,805
	Annual[7]	0.07	1990	East	1	5.3	5.37	80	718,695	4,056,806

Notes:

µg/m³ = micrograms per cubic meter
CO = carbon monoxide
ISCST3 = USEPA Industrial Source Complex model, Version 02035
m = meters
NA = Not applicable
NAAQS = Most stringent ambient air quality standard for the averaging period
NO_2 = nitrogen dioxide
OLM = ozone limiting method
PM_{10} = particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter. All PM emissions during operation assumed to be $PM_{2.5}$
PSD = Prevention of Significant Deterioration
SO_2 = sulfur dioxide
UTM = Universal Transverse Mercator

CalPeak Power Emission Rates and Stack Parameters[1]

Pollutant	Averaging Time	Emission Rate (lb/hr)	Stack Height (m)	Stack Diameter (m)	Exit Temperature (K)	Exit Velocity (m/sec)
CO	1-, 8-hour	10.73	15.24	3.6576	644.11	36.5608
NO_x	1-hour	6.17				
	Annual	0.03				
PM_{10}	24-hour	3.24				
	Annual	3.24				
SO_2	1-hour	1.42				
	3-hour	1.42				
	24-hour	1.42				
	Annual	1.42				

[1] – Two units emitting from 1 stack. Emission rates from PTE (lb/day)

Wellhead Power Emission Rates and Stack Parameters CTG

Pollutant	Averaging Time	Emission Rate (lb/hr)	Stack Height (m)	Stack Diameter (m)	Exit Temperature (K)	Exit Velocity (m/sec)
CO	1-, 8-hour	24.2	9.14	1.72	727	25.4
NO_x	1-hour	25.0				
	Annual[2]	6.2				
PM_{10}	24-hour	4.45				
	Annual	4.45				
SO_2	1-hour	1.92				
	3-hour	1.92				
	24-hour	1.92				
	Annual	1.92				

[2] – Annual value from non-thermal stabilization operation.

Wellhead Power Emission Rates and Stack Parameters Diesel Engine

Pollutant	Averaging Time	Emission Rate (lb/hr)	Stack Height (m)	Stack Diameter (m)	Exit Temperature (K)	Exit Velocity (m/sec)
CO	1-, 8-hour	4.13	6.1	0.15	888.71	38.29
NO_x	1-hour	0.0521				
	Annual	0.0521				
PM_{10}	24-hour	0.0514				
	Annual	0.0514				
SO_2	1-hour	0.0075				
	3-hour	0.0075				
	24-hour	0.0075				
	Annual	0.0075				

Starwood Midway Emission Rates and Stack Parameters

Pollutant	Averaging Time	Emission Rate (lb/hr)	Stack Height (m)	Stack Diameter (m)	Exit Temperature (K)	Exit Velocity (m/sec)
CO	1-, 8-hour	39.8	15.24	4.572	672.04	12.938
NO_x	1-hour	83.3				
	Annual	2.56				
PM_{10}	24-hour	3.7				
	Annual	1.68				
SO_2	1-hour	0.88				
	3-hour	0.88				
	24-hour	0.88				
	Annual	0.26				

FILE NAMES for MAXIMUM CONCENTRATIONS (Cumulative)

CO 1-hour	PEC West Receptors Cumulative 1hr CO 1988
CO 8-hour	PEC West Receptors Cumulative 8hr CO 1989
NOx 1-hour	PEC West Receptors Cumulative 1hr NOx 1988
NOx Annual	PEC East Receptors Cumulative Annual NOx 1990
PM10 24-hour	PEC East Receptors Cumulative 24hr PM 1991
PM10 Annual	PEC East Receptors Cumulative Annual PM 1991
SO2 1-hour	PEC West Receptors Cumulative 1hr & 3hr & 24hr SO2 1988
SO2 3-hour	PEC West Receptors Cumulative 1hr & 3hr & 24hr SO2 1990
SO2 24-hour	PEC West Receptors Cumulative 1hr & 3hr & 24hr SO2 1989
SO2 Annual	PEC East Receptors Cumulative Annual SO2 1990

CONSTRUCTION WELL INJECTION ISCST3 MODELING RESULTS

Pollutant	Averaging Period	Maximum Modeled Impact (µg/m³)	Year	PSD Significant Impact Level[1] (µg/m³)	Background[2] (µg/m³)	Maximum Total Predicted Concentration (µg/m³)	Most Stringent AAQS (µg/m³)	UTM Coordinates East (m)	UTM Coordinates North (m)
Construction Impacts – Injection Well									
CO	1 hour	536.1	1988	NA	7,705	8,241	23,000	716,189	4,058,631
	8 hour	246.3	1988	NA	5,156	5,402	10,000	716,189	4,058,631
NO_2	1 hour[3]	1,747	1988	NA	169.2	363.9**	470	716,189	4,058,631
	Annual	1.48	1990	NA	42.0	43.5	100	716,214	4,058,606
PM_{10}	24 hour	34.46	1991	NA	193.0 [4]	227.46	50	716,189	4,058,631
	Annual	0.14	1990	NA	43.0 [4]	43.14	20	716,189	4,058,631
$PM_{2.5}$	24 hour	11.1	1988	NA	110.0 [4]	121.1	65	716,189	4,058,631
	Annual	0.07	1990	NA	21.6 [4]	21.67	12	716,214	4,058,606
SO_2	1 hour	1.39	1988	NA	23.6	24.99	655	716,189	4,058,631
	3 hour	0.81	1987	NA	15.6	16.41	1,300	716,173	4,058,652
	24 hour	0.22	1990	NA	10.5	10.72	105	716,239	4,058,581
	Annual	0.002	1990	NA	5.3	5.302	80	716,214	4,058,606

** - (1,747 x 0.1) + 169.2 + max O_3 monitored value for 1/17/89 hour 9 (0.01 ppm = 20 µg/m^3) = 363.9 µg/m^3

FILE NAMES for CONSTRUCTION WELL INJECTION MAXIMUM CONCENTRATIONS

CO 1-hour	Injection Well Installation 1hr & 8hr CO 1987	CO 8-hour	Injection Well Installation 1hr & 8hr CO 1987
NOx 1-hour	Injection Well Installation 1hr NOX 1991	NOx Annual	Injection Well Installation Annual NOX 1990
PM10 24-hour	Injection Well Installation 24hr PM 1991	PM10 Annual	Injection Well Installation Annual PM 1990
PM2.5 24-hour	Injection Well Installation 24hr PM2.5 1988	PM2.5 Annual	Injection Well Installation Annual PM2.5 1990
SO2 1-hour	Injection Well Installation 1hr & 3hr & 24hr SO2 1988	SO2 3-hour	Injection Well Installation 1hr & 3hr & 24hr SO2 1987
SO2 24-hour	Injection Well Installation 1hr & 3hr & 24hr SO2 1990	SO2 Annual	Injection Well Installation Annual SO2 1990

CONSTRUCTION SITE GRADING ISCST3 MODELING RESULTS

Pollutant	Averaging Period	Maximum Modeled Impact (µg/m³)	Year	PSD Significant Impact Level[1] (µg/m³)	Backgroun d[2] (µg/m³)	Maximum Total Predicted Concentration (µg/m³)	Most Stringent AAQS (µg/m³)	UTM Coordinates	
								East (m)	North (m)
Construction Impacts – Site Grading									
CO	1 hour	579.3	1989	NA	7,705	8,284	23,000	715,865	4,058,740
	8 hour	265.2	1988	NA	5,156	5,667	10,000	715,958	4,058,791
NO_2	1 hour[3]	1,465	1989	NA	169.2	355.7**	470	715,865	4,058,740
	Annual	1.54	1990	NA	42.0	43.54	100	716,106	4,058,530
PM_{10}	24 hour	49.2	1989	NA	193.0 [4]	242.2	50	715,864	4,058,789
	Annual	0.93	1990	NA	43.0 [4]	43.93	20	716,174	4,058,604
$PM_{2.5}$	24 hour	17.32	1989	NA	110.0 [4]	127.32	65	715,864	4,058,789
	Annual	0.16	1990	NA	21.6 [4]	21.76	12	716,165	4,058,580
SO_2	1 hour	1.29	1989	NA	23.6	24.89	655	715,865	4,058,740
	3 hour	0.78	1989	NA	15.6	16.38	1,300	715,865	4,058,765
	24 hour	0.22	1989	NA	10.5	10.72	105	716,012	4,058,527
	Annual	0.001	1990	NA	5.3	5.30	80	716,106	4,058,530

** - (1,465 x 0.1) + 169.2 + max O_3 monitored value for 11/29/88 hour 16 (0.02 ppm = 40 µg/m^3) = 355.7 µg/m^3

FILE NAMES for CONSTRUCTION SITE GRADING MAXIMUM CONCENTRATIONS

CO 1-hour	Site Grading 1hr & 8hr CO 1989	CO 8-hour	Site Grading 1hr & 8hr CO 1988
NOx 1-hour	Site Grading 1hr NOX 1989	NOx Annual	Site Grading Annual NOX 1989
PM10 24-hour	Site Grading 24hr PM 1989	PM10 Annual	Site Grading Annual PM 1990
PM2.5 24-hour	Site Grading 24hr PM2.5 1989	PM2.5 Annual	Site Grading Annual PM2.5 1990
SO2 1-hour	Site Grading 1hr & 3hr & 24hr SO2 1989	SO2 3-hour	Site Grading 1hr & 3hr & 24hr SO2 1989
SO2 24-hour	Site Grading 1hr & 3hr & 24hr SO2 1989	SO2 Annual	Site Grading Annual SO2 1990

BUILDING AND SUBSTATION CONSTRUCTION ISCST3 MODELING RESULTS

Pollutant	Averaging Period	Maximum Modeled Impact (µg/m³)	Year	PSD Significant Impact Level[1] (µg/m³)	Background[2] (µg/m³)	Maximum Total Predicted Concentration (µg/m³)	Most Stringent AAQS (µg/m³)	UTM Coordinates East (m)	UTM Coordinates North (m)
Construction Impacts – Building and Substation Expansion									
CO	1 hour	1,114.8	1991	NA	7,705	8,820	23,000	715,865	4,058,740
	8 hour	870.2	1989	NA	5,156	6,026	10,000	715,958	4,058,791
NO_2	1 hour[3]	2,712	1991	NA	169.2	460.4**	470	715,865	4,058,740
	Annual	11.89	1988	NA	42.0	53.89	100	716,106	4,058,530
PM_{10}	24 hour	46.27	1989	NA	193.0 [4]	239.27	50	715,864	4,058,789
	Annual	1.27	1988	NA	43.0 [4]	44.27	20	716,289	4,058,781
$PM_{2.5}$	24 hour	18.97	1989	NA	110.0 [4]	128.97	65	715,865	4,058,765
	Annual	0.66	1988	NA	21.6 [4]	22.26	12	715,981	4,058,791
SO_2	1 hour	4.69	1991	NA	23.6	28.29	655	715,839	4,058,681
	3 hour	2.35	1989	NA	15.6	17.95	1,300	715,867	4,058,668
	24 hour	0.69	1989	NA	10.5	11.19	105	715,865	4,058,765
	Annual	0.011	1988	NA	5.3	5.31	80	715,981	4,058,791

** - (2,712 x 0.1) + 169.2 + max O_3 monitored value for 12/04/90 hour 8 (0.01 ppm = 20 µg/m^3) = 460.4 µg/m^3

FILE NAMES for BUILDING AND SUBSTATION CONSTRUCTION MAXIMUM CONCENTRATIONS

CO 1-hour	Building & Substation 1hr & 8hr CO 1991	CO 8-hour	Building & Substation 1hr & 8hr CO 1989
NOx 1-hour	Building & Substation 1hr NOX 1991	NOx Annual	Building & Substation Annual NOX 1988
PM10 24-hour	Building & Substation 24hr PM 1989	PM10 Annual	Building & Substation Annual PM 1988
PM2.5 24-hour	Building & Substation 24hr PM2.5 1989	PM2.5 Annual	Building & Substation Annual PM2.5 1988
SO2 1-hour	Building & Substation 1hr & 3hr & 24hr SO2 1991	SO2 3-hour	Building & Substation 1hr & 3hr & 24hr SO2 1989
SO2 24-hour	Building & Substation 1hr & 3hr & 24hr SO2 1989	SO2 Annual	Building & Substation Annual SO2 1988

Follow-up to Data Request Responses – Round 1
January 9, 2007 Submittal

TECHNICAL AREA: AIR QUALITY

Data Request 9 Rev:

CEC Comment - The response was very general rather than a specific description of what was modeled and how it was processed, so I will request the information I was looking for more specifically. I will ask for a brief explanation of the emission basis used for each pollutant averaging period and a description of any pre- or post-processing such as multiplying emission factors or results by 5100 operating hours/8760 hours in a year, or taking 8-hour construction emissions and dividing them over 24 hours in a day; and simple description of the appropriateness (conservative, non-conservative) of each basis and processing approach.

Response:

See information below for each pollutant and averaging time.

Construction

Emissions for all short-term averaging times for the three modeled construction scenarios were calculated based on an assumed uniform distribution of daily emissions over the period from 8 a.m. to 5 p.m. The groupings of equipment and activities that in our judgment would operate concurrently to produce the highest emissions were indicated in the construction emissions spreadsheets that were submitted with our responses. Emissions from equipment were represented as volume sources over the appropriate portions of the site and fugitive dust emissions were represented as area sources. Annual emissions were totaled over all activities that would occur in the worst year and the total pounds of each pollutant were divided by 8760 hours to estimate the annual rates.

Commissioning and Operations

For CO 1- and 8-hour averaging times, the highest hourly turbine commissioning value was used in the analysis (305.625 lb/hr). This is conservative because the modeling assumed all four turbines will be operating at this level at the same time. The 8-hour emission rate for commissioning is the same as the 1-hour value. The stack parameters used in the refined analyses (100% load at 63 degrees F) corresponded to the scenario in the screening modeling that produced the highest off-property pollutant concentrations from the CTGs.

For NOx 1-hour averaging time, the highest hourly turbine commissioning value was used in the analysis (168.0625 lb/hr). This is conservative, because the modeling assumed all four turbines will be operating at this level at the same time. The stack parameters used in the refined analyses (100% load at 63 degrees F) were from the scenario in the screening modeling that produced the highest off-property pollutant concentrations.

For NOx annual averaging time, the maximum hourly emission rate for normal operations is assumed to occur for 5000 hrs/yr which includes startups and shutdowns. The total pounds of emissions from these activities were divided by 8760 hours to determine the annual average

emission rate. The highest "normal" emission rate is 8.03 lb/hr and the annual average value is 5.53 lb/hr. The stack parameters used in the refined analyses (100% load at 63 degrees F) were from the scenario in the screening modeling that produced the highest off-property pollutant concentrations.

For PM10 24-hour averaging time, the guaranteed full-load emission rate (6 lb/hr/turbine)is assumed to occur for 24 hours. The stack parameters used in the refined analyses (50% load at 114 degrees F) were from the scenario in the screening modeling that produced the highest off-property pollutant concentrations.

For PM10 annual averaging time, the maximum hourly emission rate for normal operations is assumed to occur for 5000 hrs/yr which includes startups and shutdowns. The total pounds of emissions from these activities were divided by 8760 hours to determine the annual average emission rate. The highest "normal" emission rate is 6.0 lb/hr and the annual average value is 3.42 lb/hr. The stack parameters used in the refined analyses (50% load at 114 degrees F) were from the scenario in the screening modeling that produced the highest off-property pollutant concentrations.

For SO2 1-hour, 3-hour, and 24-hour averaging times, the maximum operating limit (1.9 lb/hr) is used for all hours of the averaging period. The emission rate used in the analysis is based on 75 grains of sulfur per 100 dry standard cubic feet of natural gas. This assumption, required by SJVAPCD policy, is conservative since data available from PG&E show that the actual average sulfur content is about 0.32 grains per 100 dry standard cubic feet. The stack parameters used in the refined analyses (100% load at 63 degrees F) were from the scenario in the screening modeling that produced the highest off-property pollutant concentrations.

For SO2 annual averaging time, the maximum hourly emission rate for normal operations is assumed to occur for 5000 hrs/yr which includes startups and shutdowns. The total pounds of emissions from these activities were divided by 8760 hours to determine the annual average emission rate. The highest "normal" emission rate is 1.9 lb/hr and the annual average value is 1.09 lb/hr.

Follow-up to Data Request Responses – Round 1
January 9, 2007 Submittal

TECHNICAL AREA: AIR QUALITY

Data Request 10 Rev: **CEC Comment -** I just want to confirm verbally at the workshop that the information presented with DR 10 is the final package of ERCs. The ERC package appears complete, but the response doesn't come out and say it plainly.

Response:

Panoche Energy Center, LLC confirmed at the January 31, 2007 Data Response and Issues Resolution Staff Workshop that the Panoche ERC requirements have been met.

Follow-up to Data Request Responses – Round 1
January 9, 2007 Submittal

TECHNICAL AREA: AIR QUALITY

Data Request 23 Rev:

CEC Comment - Although the response in itself was adequate, the response raises the question whether the approach actually determined the maximum OLM based concentration. While the NOx concentration was the highest modeled, the ozone concentration was very low. This creates a question whether other combinations of lower modeled NOx concentration and higher background ozone concentrations may actually provide a higher potential OLM based NO2 impact. While I will be asking for a confirmation that the method used was rigorous and provided the maximum OLM NO2 concentration, I will also likely run NOx_OLM myself to determine maximum impacts.

Response:

We agree that the use of a model like NOx_OLM that makes use of ozone data for all hours of the meteorological input data record would be the preferred approach. However, as stated in our response, the NOx_OLM model is not set up to do the ozone limiting calculations for area and volume sources, which are the only reasonable ways to represent most construction sources. This is the reason the method we reported was used. Please recall that every predicted concentration value includes the maximum measured hourly NO2 background value measured over a multiple-year period at a location that is more likely to experience high concentrations of this pollutant than the very rural project site. For stoichiometric reasons, such high NO2 ambient levels are unlikely to occur simultaneously with high ozone levels. Thus, we feel the results as presented are reasonably conservative.

Follow-up to Data Request Responses – Round 1
January 9, 2007 Submittal

TECHNICAL AREA: AIR QUALITY

Data Request 26 Rev: Please provide the cumulative modeling analysis, including the nearby Calpeak and Wellhead Energy peaker sites as proposed in the modeling protocol, as well as all District identified cumulative sources and the recently proposed Starwood Power-Midway Peaking Project (06-AFC-10).

Response:

January 9, 2007 Submittal Response:

Contrary to PEC's prior understanding, the District stated at PEC's meeting with the District on January 4, 2007 that the District would not perform the cumulative modeling analysis because it is not required to do so. PEC is willing to provide this analysis via its consultant, but requests until January 18, 2007 in which to submit a final analysis to the CEC. This cumulative analysis will consider the significance and appropriate inclusion of emissions from facilities in the District's PAS Listing, along with those of the proposed PEC and Starwood projects.

March 1, 2007 Revised Response:

Cumulative Air Quality Modeling Analysis

As required by CEC policy, a dispersion modeling analysis has been conducted to evaluate the maximum cumulative air quality effects of the PEC along with other new sources within six miles of the PEC site, that are either under construction, newly permitted in 2006 or currently in the permitting process. In addition, CEC has determined that the two existing peaker generation plants adjacent to the PEC should be included because of their close proximity. These are the existing CalPeak and Wellhead peaker generation facilities. CEC also determined that the Starwood Midway project, a proposed 120 MW addition to the CalPeak facility should be included.

In order to facilitate the cumulative analysis, staff of the SJVAPCD were contacted to obtain a list of permitted emission sources within six miles from the PEC. The list is provided the response to Data Request 25. Note that this list includes all permitted sources within this radius, i.e., not just new sources. In fact, further communications with SJVAPCD determined that none of these facilities had been commissioned since 2003, although two had obtained permit modifications in 2006. These included a cotton gin that replaced the cones of its cyclones for particulate control and an almond processor that increased it usage of phostoxin. It was determined that neither modification had the potential to appreciably increase the criteria pollutant emissions from these facilities. Accordingly, the sources, in addition to the PEC, that have been included in the cumulative modeling analysis are:

The four 30 MW simple cycle gas turbines of the proposed Starwood Midway project, which are exhausted through two stacks;

The two 30 MW simple cycle gas turbines of the existing CalPeak facility, which are exhausted through a single stack

The two 25 MW simple cycle turbines which are exhausted through a single stack, and the auxiliary natural gas-fired internal combustion engine of the Wellhead peaker plant; and

The stack locations of the four power projects included in the cumulative analysis are shown in Figure 1 (following this response). Stack parameters and criteria pollutant emission rates for the proposed PEC and Midway projects were obtained from their recent AFC impact analyses. Comparable data for the existing CalPeak and Wellhead facilities were supplied by SJVAPCD. Based on the fact that all of these facilities are peaking power plants, as is the PEC, it is possible that a situation could occur in which all four plants may be operating simultaneously at maximum capacity for short periods. Accordingly, the modeling simulations to evaluate cumulative impacts for averaging times up to 24 hour assumed maximum hourly emission rates for all sources. Model runs to evaluate annual average impacts did take into account permit limitations on the allowable annual emission or hours of operation for the respective facilities. Stack parameters and emission rates for the CalPeak, Starwood Midway and Wellhead facilities are presented in Tables 1 through 3 below. PEC emissions are the same as those presented in the AFC (as modified in other responses to data requests). The assumption of concurrent commissioning tests for the turbines of the two new projects (Panoche and Starwood Midway) gives particularly conservative results for short-term NO2 and CO concentrations.

The same five-year record of hourly meteorological input data from the Fresno-Yosemite International Airport that was used in the modeling for the PEC facility alone was also used for the cumulative modeling. Because of the close spatial grouping of the four power projects, the same receptor grid used in the PEC modeling was also used for the cumulative modeling.

Maximum concentrations due to the combined emissions of the four existing and proposed power generation facilities were calculated and the results were added to conservative background pollutant concentrations reported in the PEC AFC. The results are presented in Table 4 below. As demonstrated by these results, maximum predicted concentrations for all pollutants are below applicable ambient standards, except for PM10 and PM2.5. For these pollutants maximum background concentrations exceed the state and federal standards, but the maximum contributions from the four modeled facilities are very small. Based on these results it is concluded that the combined effects of the PEC and other cumulative sources close to the PEC site will be below a level of significance.

Table 1 CalPeak Power Emission Rates and Stack Parameters[1]

Pollutant	Averaging Time	Emission Rate (lb/hr)	Stack Height (m)	Stack Diameter (m)	Exit Temperature (K)	Exit Velocity (m/sec)
CO	1-, 8-hour	10.73	15.24	3.6576	644.11	36.5608
NO_2	1-hour	6.17				
	Annual	0.03				
PM_{10}	24-hour	3.24				
	Annual	3.24				
SO_2	1-hour	1.42				
	3-hour	1.42				
	24-hour	1.42				
	Annual	1.42				

[1] Two combustion turbines emitting from 1 stack. Emissions are max 1-hour values for both units operating at maximum load, except annual numbers are 2004 actual emissions.

Table 2a Wellhead Power Emission Rates and Stack Parameters - CTGs

Pollutant	Averaging Time	Emission Rate (lb/hr)	Stack Height (m)	Stack Diameter (m)	Exit Temperature (K)	Exit Velocity (m/sec)
CO	1-, 8-hour	24.2	9.14	1.72	727	25.4
NO_x	1-hour[1]	25.0				
	Annual[2]	6.2				
PM_{10}	24-hour	4.45				
	Annual	4.45				
SO_2	1-hour	1.92				
	3-hour	1.92				
	24-hour	1.92				
	Annual	1.92				

[1] Short-term emission rates based on thermal stabilization operating conditions (this is likely a turbine startup condition)

[2] Annual emission value is for non-thermal stabilization operation.

Table 2b Wellhead Power Emission Rates and Stack Parameters - Natural Gas Fired Engine

Pollutant	Averaging Time	Emission Rate (lb/hr)[1]	Stack Height (m)	Stack Diameter (m)	Exit Temperature (K)	Exit Velocity (m/sec)
CO	1-, 8-hour	4.13	6.1	0.15	888.71	38.29
NO_x	1-hour	0.0521				
	Annual	0.0521				
PM_{10}	24-hour	0.0514				
	Annual	0.0514				
SO_2	1-hour	0.0075				
	3-hour	0.0075				
	24-hour	0.0075				
	Annual	0.0075				

[1] Short-term emission rate is based on allowable emission factors in g/hp-hr times 329 horsepower, i.e., maximum hourly emission rates. Annual emission rates are maximum values allowed by the permit

Table 3 Starwood Midway Emission Rates and Stack Parameters

Pollutant	Averaging Time	Emission Rate (lb/hr)[1]	Stack Height (m)	Stack Diameter (m)	Exit Temperature (K)	Exit Velocity (m/sec)
CO	1-, 8-hour	39.8	15.24	4.572	672.04	12.938
NO_x	1-hour	83.3				
	Annual	2.56				
PM_{10}	24-hour	3.7				
	Annual	1.68				
SO_2	1-hour	0.88				
	3-hour	0.88				
	24-hour	0.88				
	Annual	0.26				

[1] The short-term and long-term emissions used in this analysis are the same as those used in the AFC modeling analysis for Starwood Midway. This is extremely conservative for short-term NOx and CO emissions which are based on commissioning conditions.

Table 4 ISCST3 Cumulative Impact Modeling Results

Pollutant	Averaging Period[1]	Maximum Modeled Impact (µg/m³)	Background[2] (µg/m³)	Maximum Total Predicted Concentration (µg/m³)	Most Stringent AAQS (µg/m³)	UTM Coordinates	
						East (m)	North (m)
Cumulative Impacts							
CO	1 hour	387.38	7,705	8,092.4	23,000	710,895	4,053,606
	8 hour	208.99	5,156	5,365.0	10,000	715,345	4,049,556
NO_2	1 hour	266.93	169.2	436.13	470	710,895	4,053,606
	Annual	0.26	42.0	42.26	100	718,695	4,056,806
PM_{10}	24 hour	3.18	193.0[4]	196.18	50	707,595	4,056,805
	Annual	0.51	43.0[4]	43.51	20	716,126	4,058,637
$PM_{2.5}$[3]	24 hour	3.18	110.0	113.18	65	707,595	4,056,805
	Annual	0.51	21.6	22.11	12	716,126	4,058,637
SO_2	1 hour	4.25	23.6	27.85	655	710,895	4,053,606
	3 hour	2.94	15.6	18.54	1,300	711,095	4,053,306
	24 hour	1.03	10.5	11.53	105	707,595	4,056,805
	Annual	0.07	5.3	5.37	80	718,695	4,056,806

[1] Emissions used for cumulative sources for each averaging times are shown in Tables 1 through 3 of this response

[2] The same background air quality levels were assumed in the cumulative analysis as in the modeling for PEC sources alone.

[3] All PM10 emissions from the cumulative sources represented in this analysis are considered to also be smaller than 2.5 microns in diameter

Notes:

µg/m³ = micrograms per cubic meter
CO = carbon monoxide
ISCST3 = USEPA Industrial Source Complex model, Version 02035
m = meters
NA = Not applicable
NAAQS = Most stringent ambient air quality standard for the averaging period
NO_2 = nitrogen dioxide
OLM = ozone limiting method
PM_{10} = particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter. All PM emissions during operation assumed to be $PM_{2.5}$
PSD = Prevention of Significant Deterioration
SO_2 = sulfur dioxide
UTM = Universal Transverse Mercator

Figure 1 Placeholder

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 1: The location, rating and age of the line.

Response:

The existing Wilson-Gregg 230kV Line related to the reconductoring is located immediately north of the Gregg Substation, north of the City of Fresno between tower 101/674 and 102/681 (approximately 1 mile). Please see the PEC project site and Gregg Substation location map provided in the response to Data Request 63. The line has a rating of 793 amps. According to the DPR forms provided in Appendix A, the Wilson-Gregg transmission line was constructed between 1923 and 1946.

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 2: A basic, layperson's discussion of the reconductoring process for the line, identifying the techniques used, equipment required, vehicles (land and air), personnel required, parking and staging areas needed, and time needed to complete the reconductoring. This shall include:

- Candidate locations (if available) and average acreage needed for tension and pulling stations, or, alternatively, the approximate number of pulling and tension sites and the average acreage per site.
- Stringing method (slack or tension)
- Need for reel or other storage near the lines.
- Method and access (cherry picker, climbing tower, etc) to unclip the old conductor, install sheaves, and clip in the new conductor and "tension" lines.
- General methodology for any needed tree trimming and brush clearing.

Response:

The Panoche Energy Center Project (PEC) in unincorporated western Fresno County, California is a proposed nominal 400-megawatt (MW) peaking facility. To effectively move this new generation of electricity, a portion of the existing Wilson-Gregg 230kV Line must be reconductored. The Wilson-Gregg 230kV Line related to the one-mile reconductoring is located immediately north of the Gregg Substation, north of the City of Fresno in Madera County between tower 101/674 and 102/681 (See Figures 2 and 3 in Response 61.). This process occurs from the top down using helicopters to minimize ground disturbance and maximize safety. All material and equipment storage and staging will occur at the existing Gregg Substation located adjacent to the towers. Activities involved with the preparation of the towers include a staging area to assemble the tower extensions, preparation of the towers to take the tower extensions and installation of the tower extension. A landing location for the helicopter will be located inside the Gregg Substation. All assembled tower extensions, workers, materials and equipment/tools will be flown to the towers with a helicopter. Methods used to "install the new conductor" will require some ground vehicle(s) activity which will occur either in a developed orchard or on dirt access roads. These areas in the orchard or on the access road may (depending on the soil) require the laying down rock on top (a SWPPP measure) to move set up equipment to remove the old conductor and install the new conductor. Helicopters will once again be used to deliver workers,

equipment/tools and materials to and from the towers. These activities are considered temporary impacts and will not require soil excavation or vegetation removal.

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 3: How access to the line and towers would be accomplished, including identifying any existing or needed access road to pull sites and staging areas.

Response:

The description of the reconductoring process, including how access to the transmission line and towers will be accomplished, is provided in the response to Data Request Recon 2, above.

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 4: If known, the location of any tower that would need to be modified or replaced, a basic description of the work that would be done to the tower, and a description of the potential impacts of that work.

Response:

No towers will be replaced. Modification to the towers will occur through the Reconductoring process as described in the responses to Data Request Recon 2 and 3.

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 5: Identity of any substations that will be added or expanded as a result of the reconductoring.

Response:

Panoche substation will be expanded for the primary interconnection as described in the AFC. No substations will be added or expanded as a result of the reconductoring. All material and equipment storage and staging will occur at the existing Gregg Substation located adjacent to the towers. Activities involved with the preparation of the towers include a staging area to assemble the tower extensions, preparation of the towers to take the tower extensions and installation of the tower extension. A landing location for the helicopter will be located inside the Gregg Substation.

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 6: Recent aerial photographs (less than 5 years old) and topographic maps of the applicable line segments (i.e., the segments that would be replaced) with the transmission towers plotted on the photographs.

Response:

Please see Figure 2 (study area) and Figure 3 (topographic features over the study area) provided in the response to Data Request 61.

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 7: Identification of any sensitive habitats along the route by examining aerial photographs, conducting site visits, searching available databases (such as the Natural Diversity Database) and literature searches, etc.

Response:

For the purposes of this evaluation, the "study area" is defined as the potential Wilson-Gregg 230kV line reconductor physical disturbance area, plus sufficient adjacent area to adequately assess the impact of the Project on special status species[6], their habitats, and other special aquatic resources[7]. The size of the study area varied depending on the wildlife/plant species or vegetative communities being evaluated. For example, botanical studies were limited to areas of proposed physical ground disturbance, while studies for noise-sensitive birds (e.g. passerines and raptors) extended out 304.8 meters (m) (1,000 feet) from the study area. The study area and a 1,000 foot buffer were evaluated to the maximum extent practical. Where access to the entire study area was not possible as a result of private property, or physical barriers (e.g., fences, substantial topographic relief, or other barriers), observations were made from the nearest appropriate vantage point with binoculars to document and verify the presence or absence of individual wildlife and plant species or their habitats.

Available information was reviewed from resource management plans and other documents containing information on resources in the study area to determine the locations and types of biological resources that could exist. Information on species occurrence was gathered from the California Natural Diversity Database (CNDDB) maintained by the California Department of Fish and Game (CDFG), Consortium of California Herbaria, and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants. Additionally, species experts, resource specialists, and others were contacted to gather file information on biological resources in the study area, including maps and database information.

This report utilizes data included in the CNDDB and CNPS records that are organized by United States 7.5-Minute Topographic Geological Survey quadrangle maps. The Herndon quadrangle was used primarily; however, the Fresno North, Biola, Kearney Park, and Gregg, California quadrangles were also used. URS Biologists reviewed the study area and proposed facility locations and created species lists from the aforementioned sources (see Tables 1 and 2 provided in the response to Data Request 61). Special status species are potentially present within the vicinity of the aforementioned quadrangle maps; however, based on literature review, field surveys, and expert consultation it was determined that for many of the special status

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[6] *For the purposes if this analysis, the term "special-status species" is used synonymously with "local, state, or federally protected plant/wildlife species." Additionally, the aforementioned terms exclude those avian species solely identified under Section 10 of the Migratory Bird Treaty Act for federal protection.*

[7] *For the purposes if this analysis, the term "special aquatic resources" includes those features that are Clean Water Act or California Fish and Game Code 1600 (et seq.) jurisdictional.*

species, suitable habitat does not exist within the study area (see Tables 1 and 2 provided in the response to Data Request 61).

Qualitative vegetation and wildlife data were collected using reconnaissance field surveys to record community characteristics and species detected in all community types within the study area. Botanical species names were recorded according to The Jepson Manual Higher Plants of California (Hickman 1993). Vegetation data were collected using pedestrian surveys to record vegetation community characteristics (e.g., notes about general vegetation types, species observed, general plant population sizes, and so forth), and species observed in community types. Vegetation communities were identified based upon descriptions provided by Holland (1986) and vegetation series were characterized following descriptions provided in Sawyer and Keller-Wolf (1995). Plants were identified to a taxonomic level sufficient to determine if the species observed were classified as an invasive non-native, natives, or special status species. Plants of uncertain identity were collected and subsequently identified from keys, Hickman (1993), and Munz (1974), and from field guides, McAuley (1996), McMinn (1939), and Dale (2000).

Incidental observations of wildlife were recorded during the reconnaissance surveys as well. Qualitative data were collected for birds, mammals, amphibians, and reptiles. The presence of a wildlife species was based on direct observation, wildlife sign (tracks, burrows, nests, scat, etc.), or vocalization. Animal scientific nomenclature, common names, and habitat information followed that of: Hall (1981), Jameson and Peeters (1988), Burt and Grossenheider (1980), Whitaker (1980), and Ingles (1965) for mammals; Alsop (2001), Peterson (1990), National Geographic Society (1983), Stokes and Stokes (1996), Udvardy (1988), and Garrett and Dunn (1981) for birds; Moyle (1995) for fish; and Stebbins (1985), Jennings (1994), and Behler (1979) for reptiles and amphibians.

Common names of plants and wildlife were taken from the above sources, and may vary by author and/or geographically in their usage. All field data compiled for vegetation and wildlife included the species observed, scientific name, common name, habitat, and evidence of presence (when no direct observation was made). A list of plant and wildlife species observed during the surveys is presented in Table 3 in the response to Data Request 61.

Special Aquatic Resources

Prior to beginning the field surveys, a topographic map and a United States 7.5-Minute Topographic Geological Survey map were examined to determine the locations of potential areas of Clean Water Act (CWA) / California Fish and Game Code 1600 (*et seq*) jurisdictional features. Areas potentially suspected of being CWA or California Fish and Game Code 1600 (*et seq*) defined wetlands, Waters of the U.S., Waters of the State, sensitive riparian areas, and so forth were recorded onto data sheets. Suspected special aquatic resources were evaluated using a methodology derived from the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and the guidance described in A Field Guide to Lake and Streambed Alteration Agreements Sections 1600-1607 (Environmental Services Division, January 1994). Potential special aquatic resources areas were evaluated to determine the presence of definable channels and/or hydrophytes, riparian habitat, soils, and hydrology[8].

RESULTS

[8] *This evaluation is not intended to meet the substantive provisions of CWA Section 404, 401 and CDFG Code 1600 (et seq). Suspected jurisdictional habitats were not delineated pursuant to U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) or the guidance described in A Field Guide to Lake and Streambed Alteration Agreements Sections 1600-1607 (Environmental Services Division, January 1994*)

The biological reconnaissance survey was conducted during the morning hours. Weather conditions at the time of the survey were sunny with light winds, and ambient air temperatures ranging from 60° to 65° Fahrenheit. The study area is located entirely within a mosaic of agricultural developments (see Figure 2 and 3 provided in the response to Data Request 61). Vegetation species detected within the study area included orange (*Citrus sinensis*), erodium (*Erodium sp.*) and telegraph weed (*Hetrotheca sp.*). A complete list of vegetation detected within the study area can be found in Table 3 in the response to Data Request 61.

The adjacent topography is flat and is comprised of developed areas (e.g., farms), agricultural fields and the San Joaquin River (approximately 1900 feet to the South). The San Joaquin River originates in the western slopes of the Sierra Nevada and drains most of the area from the southern border of Yosemite, south to Kings Canyon National Park, making it the second largest river drainage in the state (REF). The portion of the river that is to the south of the Wilson-Gregg 230kV line supports robust riparian habitats that include species such as the western sycamore (*Platanus racemosa*), willow (*Salix* sp.) and cottonwood (*Populus freemontii*) among others. Nonetheless, the San Joaquin River will be completely avoided.

The study area supports commonly occurring wildlife species associated with San Joaquin Valley. The dominant common wildlife detected during the survey included white crowned sparrow (*Zonotrichia leucophrys*), common raven (*Corvas corax*), and house finch (*Carpodacus mexicanus*). No sign or other indications of large or small mammal were detected; albeit various species are expected to occur within the immediate area. A complete list of plant and wildlife species observed during the survey is included in Table 3 in the response to Data Request 61. No raptor nests or other avian nests were observed within the study area (including the Wilson-Gregg transmission line towers).

Plants

Seven special status plant species are reported as occurring within the general vicinity of the study area. Four of these records are identified as being federal and/or state Endangered Species Act protected species. The remaining three records do not receive federal and/or state Endangered Species Act protection. The study area was assessed in the field for its potential to support both common and special status species based on habitat suitability comparisons with reported occupied habitats. Where there was no suitable habitat present for a particular special status species within the study area, or only marginally suitable habitat present, the species was considered to be absent or to have a low probability to occur within the study area. All of the records received an "absent" or "low" potential for occurrence. Species were considered absent due to a lack of suitable habitat within the study area. A low potential for occurrence designation was applied to species because its' distribution is restricted by substantive habitat requirements that are negligible within the study area and no further survey or evaluation is obligatory to determine likely presence or absence of these species. Furthermore, no federal and/or state Endangered Species Act protected species were observed during the field survey[9]. The aforementioned seven species' status, biology, ecology, blooming period, and their potential to occur are provided in Table 1 in the response to Data Request 61.

Wildlife

Fifteen special status animal species are reported as occurring within the general vicinity of the study area. Five of these records are identified as being federal and/or state Endangered Species Act protected species. The remaining ten records do not receive federal and/or state Endangered

[9] *The field surveys did not coincide with all the known flowering periods of local special status plant species (Skinner & Pavlik 1994) and prior to initiating the plant survey known special status plant populations in the local area were not evaluated to document local variation in flowering phenology.*

Species Act protection. The study area was assessed in the field for its potential to support both common and special status species based on habitat suitability comparisons with reported occupied habitats. Where there was no suitable habitat present for a particular special status species within the study area, or only marginally suitable habitat present, the species was considered to be absent or to have a low probability to occur within the study area. All of the wildlife records received an "absent" or "low" potential for occurrence. Species were considered absent due to a lack of suitable habitat within the study area. A low potential for occurrence designation was applied to species because its' distribution is restricted by substantive habitat requirements that are negligible within the study area and no further survey or evaluation is obligatory to determine likely presence or absence of these species. Furthermore, no federal and/or state Endangered Species Act protected species were observed during the field survey[10]. The aforementioned 15 species' status, biology, ecology, and their potential to occur are provided in Table 2 in the response to Data Request 61.

Special Aquatic Resources

No potentially jurisdictional CWA or California Fish and Game Code 1600 (*et seq*) features were detected within the study area.

References

References are provided in the response to Data Request 61

[10] *The field surveys were not focused presence/absence surveys and were not conducted pursuant to United States Fish and Wildlife Service, California Department of Fish and Game, or United States Forest Service established protocols.*

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 8: Legible map(s) depicting biological resources (habitat, nesting areas, etc.) within 500 feet of the outside edges of the right of way for the transmission line corridor.

Response:

Please see Figure 2 (study area map) provided in the response to Data Request 61.

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 9: Identification of known cultural resource sites within ½ mile of the route based on a California Historic Resource Information System literature search and contact with the Native American Heritage Commission. This information should be provided as a legible map depicting the cultural sites, and must be submitted under confidential cover.

Response:

There are no previously recorded cultural resources within ½ mile of the project location. The NAHC reports that a search of the Sacred Lands Files reveals no known resources in the area.

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 10: If any portion of the line is more than 45 years old, describe modifications/upgrades, if any, that have been made previously and provide any information indicative of the historic significance of the existing transmission line segment to be reconductored.

Response:

The entire line segment to be reconductored is more than 45 years old. Any past modifications/upgrades to the line would have included typical activities such as the replacement of conductors and insulators. As detailed on the DPR forms (provided in Appendix A), the line is not eligible for the NRHP, and is not a Cultural Resource for the purposes of CEQA. Therefore, neither past or future modifications to the line would impact the cultural resource base.

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 11: If an existing substation needs to be modified as a result of the proposed project, and it is more than 45 years old, describe modifications/upgrades, if any, that have been made previously, and provide any information indicative of the historic significance of the existing substation.

Response:

The Gregg Substation is less than 45 years old, and therefore not of concern as a cultural resource. In addition, there will be no modifications to the Gregg Substation.

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 12: Legible map(s) showing existing land uses within 500 feet of the outside edges of the right of way, including identification of any school, hospital, daycare center, other sensitive receptors, and residential and commercial areas.

Response:

Agricultural use (i.e., orchards and farming facilities) is the only existing land use within 500 feet of the Wilson-Gregg transmission line. Please see Figure 4, Study Area Land Use, on the following page. No sensitive receptors (i.e., schools, hospitals, daycare centers, etc.) exist within 500 feet of the transmission line.

Figure 4
WILSON-GREGG 230 kV LINE
STUDY AREA LAND USE

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 13: Identification of any potentially significant impact to the environment that may occur as the result of the reconductoring, construction technologies that are available to mitigate an impact, and mitigation measures that would reduce the impact to a less than significant level, including the standard environmental mitigation measures developed generically by the transmission owner and/or the CPUC for reconductoring projects.

Response:

The proposed reconductoring would occur on the existing Wilson-Gregg 230kV line located immediately north of the Gregg Substation, between tower 101/674 and 102/681. The reconductoring process would involve the extension of the existing towers utilizing helicopters to minimize ground disturbance. Construction equipment storage, materials staging, and helicopter landing would occur at the existing Gregg Substation located adjacent to the towers. All assembled tower extensions, workers, materials and equipment would be flown to the towers via helicopter. Limited ground activity would include vehicle activity along dirt access roads and within the developed orchard. The area within the orchard and access road may require a layer of rock for the transport of equipment for installation and removal of the conductor. The reconductoring would not require soil excavations, grading, soil disturbance, or vegetation removal. As with other aspects of the PEC project, the proposed reconductoring construction activities would implement mitigation and avoidance measures from applicable federal, state, and local agencies to reduce impacts to less than significant levels. Furthermore, the reconductoring construction activities are considered short-term and temporary, ceasing upon completion of the activities.

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 14: Identity of any agency or other interested party with jurisdiction or permit approval authority over any part of the reconductoring project.

Response:

The following agencies have been identified as having jurisdiction or permit approval authority for the implementation of the proposed reconductoring of the Wilson-Gregg transmission line. As with other aspects of the PEC project, the proposed reconductoring construction activities would implement mitigation and avoidance measures from applicable federal, state, and local agencies to reduce impacts to less than significant levels.

- California Public Utilities Commission (CPUC)
- Federal Energy Regulatory Commission (FERC)
- California Independent System Operator (Cal ISO)

Data Request from February 1, 2007
Letter Requesting Additional Reconductoring Information

TECHNICAL AREA: RECONDUCTORING INFORMATION

Data Request Recon 15: In general, provide facts to support conclusions about the potential for impacts and feasible mitigation, including impact avoidance measures.

Response:

The proposed reconductoring would occur on the existing Wilson-Gregg 230kV line located immediately north of the Gregg Substation, between tower 101/674 and 102/681. The reconductoring activities would not result in impacts to geologic resources, agricultural resources, soils, biological resources, cultural resources, paleontological resources, land use, socioeconomics, waste management, hazardous materials, and public health and safety. Based on biological surveys and records searches, impacts are not anticipated on special status plant and wildlife species due to the lack of suitable habitat. Furthermore, with implementation of applicable mitigation and avoidance measures, impacts would be reduced to less than significant levels for traffic and transportation, water resources, noise, visual resources, and worker safety. The reconductoring process would involve the extension of the existing towers utilizing helicopters to minimize ground disturbance. Construction equipment storage, materials staging, and helicopter landing would occur at the existing Gregg Substation located adjacent to the towers. All assembled tower extensions, workers, materials and equipment would be flown to the towers via helicopter. Limited ground activity would include vehicle activity along dirt access roads and within the developed orchard. The reconductoring activities would not require soil excavation, grading, soil disturbance or vegetation removal. Construction activities related to the reconductoring would be temporary, short-term, and cease upon completion of construction activities.